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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/127,316	07/31/1998	TA YEN CHING		9973

7590 10/22/2004

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EXAMINER
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NOLAN, SANDRA M

ART UNIT	PAPER NUMBER
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1772

DATE MAILED: 10/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/127,316

Applicant(s)

CHING ET AL.

Examiner

Sandra M. Nolan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 99-139, 141-180, 182, 183 and 186-194 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 99-139, 141-180, 182, 183 and 186-194 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claims***

1. Claims 99-139, 141-180, 182-183 and 186-194 are pending. Claims 1-98, 140, 181 and 184-185 have been cancelled.

### ***Withdrawal of Allowance***

2. The allowance of claims 107-139, 141-180, 182-183 and 186-194 is withdrawn in order to apply the new rejections below.

### ***Rejections Withdrawn***

3. The 35 USC 112 rejection of claims 99-106 for indefiniteness is withdrawn in view of the amendments to the claims in the response dated 17 August 2004.
4. The 35 USC 102 rejection of claims 99, 100 and 105 based on Tellier et al (US-3,632,684) is withdrawn in response to the arguments made in the response dated 17 August 2004.

### ***New Rejections***

#### **Claim Rejections - 35 USC § 103**

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
7. Claims 99, 100, 105-109, 114-120, 122-124, 129-134, 138-139, 141-167 and 189-194 are rejected under 35 U.S.C. 103(a) as being unpatentable over Speer et al (US 5,399,289) in view of Tellier et al (3,632,684).

Speer teaches compositions and articles (title) that employ, as oxygen scavengers, copolymers of ethylene, vinyl esters and 4-vinyl-cyclohexene (see claim 3 of the patent). The compositions also contain metal catalysts (claim 1 of the patent) and polymer diluents (col. 6, lines 51-66).

The article may be packages for food (col. 1, lines 20-32) and may be multilayered, with other layers of oxygen barrier materials (col. 8, lines 16-58).

Speer's metal catalysts may be cobalt salts (col. 6, lines 20-36).

Speer can use vinylic esters other than vinyl acetate and cyclic olefins other than 4-vinyl-cyclohexene (col. 5, lines 1-5 and 60-69).

Speer fails to teach the X-Y links of applicants' claims in its copolymers.

Tellier teaches copolymers having pendant groups that include cyclohexyl moieties linked to the backbone via C(O)O-CH<sub>2</sub> groups (see the abstract and col. 2, lines 1-22). Its copolymers are used, alone or with other polymers, to make molded articles (col. 2, line 42 and col. 4, lines 17-26) that have improved impact strength over copolymers that do not have the recited groups (col. 2, lines 19-22).

The patents are analogous because both deal with moldable vinylic copolymers.

It would have been obvious to one having ordinary skill in the art at the time of the invention to employ the copolymers of Tellier in the compositions and articles of Speer in order to improve the impact strength of the articles.

The motivation to employ the copolymers of Tellier in the compositions and articles of Speer is found at col. 2, lines 19-22 of Tellier, where improved impact strength is taught.

It is deemed beneficial to make articles having improved impact strength so that they can withstand stresses involved in their storage, transportation and use.

8. Claims 101-104, 110-113, 121, 125-128, 135, 168-180, 182-183 and 186-188 are rejected under 35 U.S.C. 103(a) as being unpatentable over Speer in view of Tellier et al as applied to claims 99, 100, 105-109, 114-120, 122-124, 129-134, 136-139, 141-167 and 189-194 above, and further in view of Ching et al (US 5,736,616).

Speer and Tellier are discussed above. They fail to teach (trans)esterification or photoinitiators.

Ching teaches the use of photoinitiators (col. 25, lines 35-65) in compositions containing (trans)esterification products made from ethylenic backbone polymers and hydroxyl-substituted cyclic olefin compounds (abstract, title, col. 11, lines 3-14). Nopol ester (col. 11, lines 10-11) is an cyclic olefin ester.

Its photoinitiators facilitate control of the oxygen scavenging properties of the copolymers (col. 25, lines 35-39). The (trans)esterification products can be made in mixing equipment economically (col. 1, lines 33-41).

The three patents are analogous because they all deal with moldable vinylic copolymers.

It would have been obvious to one having ordinary skill in the art at the time of the invention to employ the photoinitiators and (trans)esterification technique of Ching to make oxygen scavenging copolymers, compositions and/or articles based on the combination of Speer and Tellier in order to make the copolymers compositions and/or articles economically.

The motivation to employ the photoinitiators of Ching to make oxygen scavenging copolymers, compositions and/or articles based on the combination of Speer and Tellier is found at col. 25, lines 35-39 of Ching, where photoinitiators are taught to facilitate control of oxygen scavenging properties.

The motivation to employ the photoinitiators and (trans)esterification technique of Ching to make oxygen scavenging copolymers, compositions and/or articles based on the combination of Speer and Tellier is found at col. 1, lines 33-41 of Ching, where the economic production of copolymers is taught.

It is deemed beneficial to make oxygen scavenging articles whose scavenging properties can be controlled and that can be made economically in order to customize the articles' properties and to save money.

### ***Response to Arguments***

9. Applicant's arguments with respect to claims 99-139, 141-180, 182-183 and 186-194 have been considered but are moot in view of the new ground(s) of rejection.

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***Citations as of Interest***


10. Yang et al (US 2002/0102424A1) and Ito et al (JP 09011416) are cited for teaching substituted cyclic olefin monomers in oxygen scavenging copolymers.

***Conclusion***

Any inquiry concerning this communication should be addressed to Sandra M. Nolan, at telephone number 571/272-1495. She can normally be reached Monday through Thursday, from 6:30 am to 4:00 pm, Eastern Time.

If attempts to reach the examiner are unsuccessful, her supervisor, Harold Pyon, can be reached at 571/272-1498.

The fax number for patent application documents is 703/872-9306.

  
S. M. Nolan  
Primary Examiner  
Technology Center 1700

09127316(20041021)